USDA United States Department of Agriculture

# Prescribed Grazing - 528

***Conservation Practice Fact Sheet*** ***December 2015***

## INTRODUCTION

This fact sheet provides instructions for managing grazing and/or browsing animals to maintain or improve the quantity and quality of pasture forage. Using proper management techniques can significantly improve plant and livestock health and productivity, while also protecting soil, water, and wildlife resources.

## IMPROVING PLANT HEALTH AND PRODUCTIVITY

Base the duration and intensity of grazing on desired plant health and expected productivity of key forage species. Adjust grazing periods and/or stocking rates as needed to meet production objectives, while maintaining plant species composition and vigor.

Apply lime and fertilizer, if needed based on soil test results, to improve or maintain plant vigor. The use of commercial fertilizer and other forms of plant nutrients must be in compliance with Maryland nutrient management regulations, as applicable.

For rotational systems, the need for a recovery period for each paddock will affect whether there is adequate forage production at any given time. This "recovery period" is the amount of time it takes a plant species to regrow to a grazable height.

The recovery period will vary significantly over the growing season. For cool-season species, recovery will be faster in the spring. For warm-season species, recovery will be faster in mid to late summer. Recovery period days provide valuable information for overall grazing schedules, but they should not be used as the basis for rotating livestock. When using intensive management systems, rotate livestock to and from paddocks based on forage heights, not on fixed calendar dates.

In addition to normal regrowth recovery periods, periodic rest from grazing may be beneficial to maintain or restore the desired plant community following episodic events, such as severe drought.

## IMPROVING LIVESTOCK HEALTH AND PRODUCTIVITY

***Feed Supplements***. Balance supplemental feed and/or minerals with pasture forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock. Using a detailed analysis, balance feed rations with pasture forage to provide the energy, fiber, by-pass protein, vitamins, and minerals necessary to meet the production objectives and nutritional requirements of the livestock species and age.

***Bloat***. In pure legume fields, where ruminant animals are sensitive to bloat, consider the following:

1. Provide poloxalene free choice prior to the first stocking per season;
2. To condition animals, feed livestock prior to pasturing for the first few days;
3. Allow livestock to graze legumes only after water from dew, rain, or irrigation has evaporated from foliage and dry hay is made available as free choice in the field.

***Cyanogenic Forages.*** Do not graze cyanogenic forages (sorghum and sudangrass) when hydrogen cyanide

***Land owners and managers please note:*** *If you receive financial assistance for prescribed grazing, be sure to check with your funding agency/organization for specific maintenance or management requirements.*

content of the forage dry matter exceeds 200 ppm (as may occur in drought or frost-stressed plants). For sudangrass or sudan-sorghum crosses, refrain from grazing until plants are 24 inches tall.

***Endophyte Toxicity.*** Kentucky-31 type endophyte-infected tall fescue is not recommended for brood mares, lactating dairy cows, and growing animals. Test fields to determine the level of infestation. Reduce the effects of toxicity by providing alternative forage. When feasible, convert conventional tall fescue pastures to a variety of "novel" (non-toxic) endophyte-infected tall fescue that retains the persistence, vigor, and drought tolerance characteristics of conventional tall fescue.

***Grass Tetany.*** Grass tetany (or "grass staggers") is associated with magnesium deficiency, and primarily affects ruminant livestock, especially older lactating cows. Livestock are more susceptible to grass tetany in the spring of the year when grass is rapidly growing and succulent, but tetany may also occur in the fall with new growth of cool-season grasses. Treat by providing free choice magnesium blocks or feed additives to maintain blood serum levels of magnesium above 20 ppm. Applying dolomitic limestone on pastures and including legumes in pasture mixes can decrease the incidence of grass tetany.

***Poisonous Plants.*** Scout for poisonous plants, such as nightshades and wilting cherry branches, and remove them if found in levels to cause illness or death. For additional information, see Cornell University's on line database, *Plants Poisonous to Livestock and Other Animals,* at: http://www.ansci.cornell.edu/plants/index.html

***Sanitation***. When using a pasture rotation method to break some soil borne parasite cycles, remove livestock from pastures for the periods shown in Table 1.

*Table 1. Recommended Livestock Removal Periods to Break Parasite Cycles on Pastures.*

| Species | Removal Period |
|---|---|
| Cattle | 1 Year |
| Horses | 1 Year |
| Sheep | 1 Year |
| Swine | 1 Year |
| Poultry | 2 Years |

***Shade.*** Access to natural or artificial shade may be needed for livestock on days when relative humidity levels exceed 50 percent and air temperatures exceed 90° F. Take into consideration the species, breed, and color of livestock. Darker colored animals may show more signs of heat stress than lighter coated animals.

***Shelter***. Where conditions warrant, provide livestock wintered on pasture access to natural or artificial shelter that keeps the wind chill factor within 5°F of ambient air temperature. In the mid-Atlantic region, shelter is usually provided for horses, but may also be beneficial for other livestock.

## IMPROVING SOIL AND WATER QUALITY

***Wet Soil Conditions.*** Refrain from grazing poorly drained and very poorly drained pastures when the soil is saturated. It is recommended that all grazing systems have a heavy use or sacrifice area that can be used during wet periods (and drought) to protect the other pastures from damage such as trampling and compaction. An all-season corral, barn, protected livestock yard, indoor arena, or well-drained grass pasture can be suitable for this purpose.

***Water Requirements.*** Provide all livestock and poultry on pasture with free access to clean water. Use Table 2 to estimate daily water needs. Keep in mind that water requirements may increase during long periods of temperatures at or above 90°F and humidity above 50%.

*Table 2. Average Daily Water Requirements for Grazing Livestock and Poultry.*

| Species | Gallons/Head/ Day |
|---|---|
| Dairy cows > 18,000 lbs. milk | 35 |
| Dairy cows < 18,000 lbs. milk | 25 |
| Dry cows or heifers | 15 |
| Calves | 7 |
| Beef brood cows | 12 |
| Steers in feedlot | 18 |
| Dairy, goats or sheep | 2 |
| Goats or sheep | 1 |
| Horses, mules or donkeys | 12 |
| Swine, brood sows | 6 |
| Swine, finishing | 4 |
| Laying hens | 0.09 |
| Broilers | 0.06 |
| Turkeys, 15-19 weeks old | 0.17 |
| Ducks or geese, 15 - 19 weeks old | 0.22 |

***Watering Facilities.*** Locate areas of high animal concentration away from waterways, streams, and ponds whenever possible. Do not allow livestock to have unrestricted access to surface waters. Provide alternative watering sites, such as troughs, stream crossings, and other limited access points. Use filter strips as needed to intercept particulates and soluble pollutants in surface runoff.

To encourage even grazing pressure, locate watering facilities for cattle, horses, sheep, and goats based on the following recommendations in Table 3. Distances may vary due to economic and ecological constraints.

*Table 3. Recommended Maximum Distances to Water for Cattle, Horses, Sheep, and Goats.*

| Average Field Slope | Maximum Distance To Water |
|---|---|
| >15% | 750 feet |
| 8 - 15% | 1,100 feet |
| < 8% | 1,420 feet |

## IMPROVING WILDLIFE HABITAT

Where wildlife habitat is desired, reduce grazing during critical nesting periods. Use only light grazing pressure during the nesting season (April 15 to August 15), and do not graze below 6 inches to maintain habitat for ground-nesting birds. Where feasible, graze only one-third of the acreage each year, or leave ungrazed strips at least 35 feet wide along field edges to provide undisturbed nesting habitat.

For optimum results, ungrazed strips should be at least 50 feet wide, preferably adjacent to woody cover, or leave the entire field ungrazed during the primary nesting season. To provide winter cover, allow sufficient recovery time in the fall so that the stand is at least 8 inches in height before dormancy.

## ADDITIONAL REFERENCES

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